

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

SELENE COMMUNICATION  
TECHNOLOGIES, LLC,

Plaintiff,

v.

RACKSPACE US, INC.,  
RACKSPACE HOSTING, INC., and  
JUNGLE DISK, LLC,

Defendants.

C.A. No. \_\_\_\_\_

**JURY TRIAL DEMANDED**

**COMPLAINT**

This is an action for patent infringement in which Plaintiff, Selene Communication Technologies, LLC (“Selene”), makes the following allegations against Defendants Rackspace US, Inc., Rackspace Hosting, Inc., and Jungle Disk, LLC (collectively, “Rackspace”):

**PARTIES**

1. Plaintiff Selene is a Delaware limited liability company with its principal place of business at 2961 Fontenay Road, Shaker Heights, Ohio 44120.

2. On information and belief, defendant Rackspace US, Inc. is a corporation organized under the laws of the State of Delaware, with its corporate headquarters and principal place of business at 1 Fanatical Place, City of Windcrest, San Antonio, TX 78218. Rackspace US, Inc. may be served via its registered agent for service of process, Capitol Services, Inc., at 1675 South State Street, Suite B, Dover, DE 19901.

3. On information and belief, defendant Rackspace Hosting, Inc. is a corporation organized under the laws of the State of Delaware, with its corporate headquarters and principal place of business at 5000 Walzem Road, San Antonio, TX 78218. Rackspace Hosting, Inc. may

be served via its registered agent for service of process, Capitol Services, Inc., at 1675 South State Street, Suite B, Dover, DE 19901.

4. On information and belief, defendant Jungle Disk, LLC is a corporation organized under the laws of the State of Delaware, with its corporate headquarters and principal place of business at 1110 Satellite Boulevard NW, Suite 404, Suwanee, GA 30024. Jungle Disk, LLC may be served via its registered agent for service of process, Capitol Services, Inc., at 1675 South State Street, Suite B, Dover, DE 19901.

### **JURISDICTION AND VENUE**

5. This action arises under the patent laws of the United States, 35 U.S.C. § 1, *et seq.*, including § 271. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

6. This Court has personal jurisdiction over Rackspace. In addition to being a Delaware corporation, Rackspace has conducted extensive commercial activities and continues to conduct extensive commercial activities within the State of Delaware. Rackspace, directly and/or through intermediaries or affiliates (including Rackspace entities, subsidiaries, distributors, sales agents, and others), offers for sale, sells, and/or advertises its products and services (including, but not limited to, the products and services that are accused of infringement in this lawsuit) in the United States, the State of Delaware, and this Judicial District. Rackspace, directly and/or through intermediaries or affiliates (including other Rackspace entities, subsidiaries, distributors, sales agents, and others), has purposefully and voluntarily placed one or more of its products (including, but not limited to, the services and products that are accused of infringement in this lawsuit), as described below in Counts I and II, into the stream of commerce with the expectation that they will be purchased by customers in the District of

Delaware. Accordingly, Rackspace has committed the tort of patent infringement within the State of Delaware, as alleged in more detail below.

7. Venue is proper in this District under 28 U.S.C. §§ 1391(b)-(c) and 1400(b) because, among other reasons, Rackspace is subject to personal jurisdiction in this District, and has committed and continues to commit acts of patent infringement in this District. On information and belief, for example, Rackspace has used, sold, offered for sale, and imported infringing products/services in this District.

### FACTUAL BACKGROUND

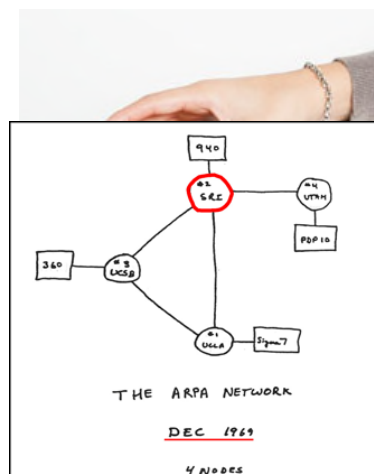
8. This lawsuit asserts causes of action for infringement of United States Patent Nos. 6,363,377 and 7,143,444 (collectively, the “Asserted Patents”). The inventions disclosed in the Asserted Patents were conceived and created by inventors working for a 501(c)(3) nonprofit research institute known as SRI International (“SRI”).

9. Based on a purchase agreement and assignment from SRI, Plaintiff Selene owns the Asserted Patents, and has the exclusive right to sue for infringement and recover damages for all past, present, and future infringement.

### THE HISTORY OF SRI

10. All of the inventions disclosed and claimed in the Asserted Patents were originally invented and patented by technology researchers at SRI, a premier institution with a long history of leading technological innovation.

11. SRI, which began as an initiative among researchers at Stanford University, was founded in 1946 as Stanford Research Institute.



the

12. Since its inception, SRI was a pioneer in advancing technology in ways that had a profound global impact. For instance, in 1963, engineers at SRI created the first optical video disk recording system, paving the way for modern optical storage technologies such as CD-ROMs, DVDs, and Blu-Ray discs. In the early 1960s, SRI engineers invented the world's first computer mouse (pictured above right). In the late 1960s, SRI collaborated with the U.S. Department of Defense to create "ARPANET"—the progenitor of what would become the global Internet (scan of ARPANET map, circa 1969, pictured right).

13. SRI was spun out from Stanford University in 1970. In the early 1970s, SRI was the first organization to utilize domain names, with extensions such as ".com," ".org," or ".gov." In 1977, SRI created what is considered to be the first true Internet connection, by connecting three dissimilar networks.

14. In 1988, SRI acquired the Sarnoff Corporation ("Sarnoff"). Sarnoff, formed in 1941, traces its origins to David Sarnoff, a principal technology researcher at RCA Laboratories. It was created to be a research and development company specializing in vision, video, and semiconductor technology, and it later expanded its research areas to include various facets of



information technology. Sarnoff is known for several important technological advances. For instance, in 1953, David Sarnoff and RCA Laboratories created the world's first color television system (pictured at right, with RCA President Franklin Folsom (left) and RCA Chairman David Sarnoff (right)). From 1963 to 1968, a team of engineers at the David Sarnoff Research Center developed a revolutionary method for the electronic control of light reflected from liquid crystals—leading to their invention of the liquid crystal display (LCD). Sarnoff is also credited

for the development of the electron microscope and early optoelectronic components such as lasers and LEDs.

15. In 2007, SRI spun off its creation of Siri, a virtual personal assistant with a natural language interface, as Siri, Inc. Siri was acquired by Apple Inc. in 2011.

16. SRI today is a nonprofit, independent research and innovation center serving government and industry that derives revenue from a variety of sources, including licensing. SRI employs over 2,500 employees at research facilities across the United States and abroad, including researchers at the former Sarnoff facilities in Princeton, New Jersey.

17. Each of the Asserted Patents issued as the result of the inventiveness of SRI personnel and its significant research investment.

#### SELENE COMMUNICATION TECHNOLOGIES, LLC

18. Selene was created in 2011 in order to advance technological innovation by active participation in all areas of the patent market, including licensing. By creating a secondary market for SRI patents, Selene believes it is promoting innovation and providing capital to SRI that can be reinvested by SRI in further research.

19. Selene completed a transaction to, among other things, acquire the Asserted Patents from SRI in July 2013. The transaction included a non-exclusive license to the U.S. government for the patents.

#### UNITED STATES PATENT NO. 6,363,377

20. On March 26, 2002, the United States Patent and Trademark Office (the “PTO”) duly and legally issued United States Patent No. 6,363,377 (the “’377 Patent”), entitled “Search Data Processor,” listing as inventors Dina Kravets, Liviu Chiriac, Jeffrey Esakov, and Suz Hsi

Wan, after a full and fair examination. A true and correct copy of the '377 Patent is attached as Exhibit A.

21. Selene is the owner of the entire right, title, and interest in and to the '377 Patent by assignment, and has the exclusive right to sue for infringement and recover damages for all past, present, and future infringement, including against Rackspace.

22. The '377 Patent discloses and claims, among other things, novel methods and systems for refining, filtering, and organizing search queries and search results. The '377 Patent teaches inventions that are fundamental to modern methods and systems for use with search engines, including, but not limited to, the implementation of auto-generated alternative search queries. By way of example only, Claim 1 recites one of the inventions disclosed in the '377 Patent:

1. A method for generating search queries to be sent to a search engine for searching a information management system, comprising the steps of:
  - a) receiving an initial search query;
  - b) converting the initial search query to general boolean language;
  - c) identifying a level in a respective hierarchy tree for each search query item in the initial search query;
  - d) formulating additional related search queries by substituting items from the respective hierarchy tree for selected items in the query, the substituted item having a level in the hierarchy tree that is greater than or less than the level of the query item in the initial query; and
  - e) forwarding the initial search query and the additional search queries in parallel to the search engine.

23. On July 30, 1998, Dina Kravets, Liviu Chiriac, Jeffrey Esakov, and Suz Hsi Wan submitted their first provisional application for what would become the '377 Patent. At the time, each of the inventors were employed by SRI's subsidiary at its New Jersey laboratories.

24. In 1998, Internet search engine technology was in its infancy. The leading search engine of the time was AltaVista, a screen capture of which is pictured below:<sup>1</sup>



25. At that time, AltaVista's search capabilities were considered state of the art. Whereas web "cataloguing" websites, such as Yahoo, manually compiled lists of webpages, AltaVista permitted users to search the full text of millions of automatically indexed webpages through a single portal. Other search engines such as Excite, HotBot, or Lycos provided similar functionality, but not on the scale provided by AltaVista. By 1998, AltaVista received 13 million queries per day, which it processed on 20 machines that collectively had 130 gigabytes of RAM and 500 gigabytes of hard disk space.

26. The inventors of the '377 Patent recognized, however, that all of these search engines had inherent limitations. Users were limited not only by the incompleteness of the search engines' indexes, but also by the accuracy of the user's search queries. A user with a specific target in mind, for example, was faced with the needle-in-a-haystack search exercise of manually reformulating search queries indefinitely until finding a responsive item among the

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<sup>1</sup> Image obtained from Search Engine Land, A Eulogy for AltaVista, The Google of Its Time, *available at* <http://searchengineland.com/altavista-eulogy-165366> (last visited Feb. 20, 2014).

thousands of “hits” returned by the search engine. Worse still, the search engines’ inability to effectively discern the user’s need could have led the user to mistakenly conclude that responsive materials did not exist, when in fact they did. The user, in other words, would not know what he or she was missing.

27. The inventors of the ’377 Patent sought to overcome these search limitations. The ’377 Patent generally teaches methods and systems for improving the interaction between the user and the search engine. By general example only, the ’377 Patent discloses methods and systems for automatically converting search queries into “Boolean” language (which allows logical limitations and expansions of searching), selectively modifying the user’s query terms to be weaker or stronger, and intelligently forming additional related search queries. The reformulated search queries are then submitted to the search engine in parallel with the user’s initial search query, yielding additional—and more accurate—results.

28. The ’377 Patent was a breakthrough innovation. An illustration of the fundamental nature of the methods and systems taught and claimed in the ’377 Patent is the fact that it has been cited during the prosecution of more than 265 later-filed patents. The ’377 Patent has more forward citations than 92.9% of all comparable United States patents and has been cited in patent applications filed by a variety of industry leaders including Google, IBM, Intel, Oracle, Yahoo!, Facebook, and Microsoft.

UNITED STATES PATENT NO. 7,143,444

29. On November 28, 2006, the PTO duly and legally issued United States Patent No. 7,143,444 (the “444 Patent”), entitled “Application-Layer Anomaly and Misuse Detection,” listing as inventors Phillip Andrew Porras, Magnus Almgren, Ulf E. Lindqvist, and Steven Mark



Dawson, after a full and fair examination. A true and correct copy of the '444 Patent is attached as Exhibit B.

30. Selene is the owner of the entire right, title, and interest in and to the '444 Patent by assignment, and has the exclusive right to sue for infringement and recover damages for all past, present and future infringement, including against Rackspace.

31. The '444 Patent discloses and claims, among other things, novel methods and systems for hosting an intrusion detection process in a server, where the intrusion detection process is integrated with a server process. The '444 Patent teaches inventions that are fundamental to modern methods and systems for intrusion detection components and processes. By way of example only, Claim 1 recites one of the inventions disclosed in the '444 Patent:

1. A method comprising:  
in a server, hosting an intrusion detection process that  
provides intrusion detection services;  
integrating the intrusion detection process with a server  
process; and  
passing a request for data received by the server process  
to the intrusion detection process,  
where the intrusion detection process comprises:  
packing a subset of information from the request into  
an analysis format; and  
delivering the subset in a funneling process, via a  
socket, to an analysis process.

32. On November 28, 2001, Phillip Andrew Porras, Magnus Almgren, Ulf E. Lindqvist, and Steven Mark Dawson filed their application for what would become the '444 Patent. Each of the inventors were employed by SRI at its facilities in Menlo Park, California.

33. SRI pioneered the field of network intrusion detection. In 1997, SRI researchers published their creation of the Event Monitoring Enabling Responses to Anomalous Live

Disturbances (“EMERALD”),<sup>2</sup> which became a foundational and patented industry standard for intrusion detection.

34. SRI continues to license its patents related to its EMERALD technology to industry leaders in the field of cyber-security to date, including, most recently, Symantec and IBM.<sup>3</sup> SRI’s EMERALD research team is led by Principal Investigator Phillip Porras, the Program Director of SRI’s Internet Security Group and an inventor of the ’444 Patent.<sup>4</sup>

35. The ’444 Patent, while covering technology distinct from EMERALD, advanced the state of the art of intrusion detection by generally teaching methods and systems for effectively hosting an intrusion detection process in a server and integrating the intrusion detection processes into server processes.

36. The inventions of the ’444 Patent are fundamental to modern methods and systems for intrusion detection. The ’444 Patent has been cited during the prosecution of more than 13 later-filed patents and has more forward citations than 72.6% of all comparable U.S. patents. The ’444 Patent has been cited in the patent applications of a variety of industry leaders in intrusion detection including Hewlett-Packard, Symantec, and Microsoft.

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<sup>2</sup> See Porras et al., *EMERALD: Event Monitoring Enabling Responses to Anomalous Live Disturbances*, 1997 National Information Systems Security Conference (Oct. 1997), available at <http://www.csl.sri.com/papers/emerald-niss97/> (last visited Feb. 20, 2014).

<sup>3</sup> See, e.g., Press Release, SRI International Licenses EMERALD Network Intrusion Detection Patents to IBM (Mar. 14, 2013), available at <http://www.sri.com/newsroom/press-releases/sri-international-licenses-emerald-network-intrusion-detection-patents-ibm> (last visited Feb. 20, 2014).

<sup>4</sup> See SRI International, *EMERALD*, available at <http://www.csl.sri.com/projects/emerald/> (last visited Feb. 20, 2014). Dr. Ulf Lindqvist, another inventor of the ’444 Patent, is also a staff member of the EMERALD team.

RACKSPACE'S INFRINGEMENT OF THE ASSERTED PATENTS

37. Rackspace, founded in 1998, is a publicly-traded company that advertises itself as a leader in hybrid cloud and open-source operating systems for the cloud. Rackspace operates nine data centers on four continents and employs over 5,000 people worldwide.<sup>5</sup>

38. In addition to offering web hosting and associated services, Rackspace also offers dedicated services that include managed security.<sup>6</sup>

39. Rackspace hosts and has hosted a website, [www.rackspace.com](http://www.rackspace.com), that generates search queries to be sent to a search engine for searching an information management system. This Rackspace Search is powered by Google Custom Search. Among other features, the Rackspace Search offers the same query reformulation and improvement features claimed by the '377 Patent, thus infringing the '377 Patent. For example, the Rackspace Search performs the query reformulation claimed by the '377 Patent through the use of at least "Query Suggest," "Synonyms," and "Spellcheck."<sup>7</sup> The Rackspace Search "[f]actors in more than 100 variables for each query, delivering highly relevant results from the same algorithms used on Google.com."<sup>8</sup> It also includes functionalities for "Rewriting Queries."<sup>9</sup>

40. Rackspace markets and has marketed a Log Manager product and a Threat Management System, powered by Alert Logic. The Log Manager includes a Log Manager Sensor component and a Log Review component.<sup>10</sup> The Threat Management System includes a

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<sup>5</sup> See "About Rackspace," available at <http://www.rackspace.com/about/> (last visited Feb. 24, 2014).

<sup>6</sup> See "Managed Security," available at [http://www.rackspace.com/managed\\_hosting/services/security/](http://www.rackspace.com/managed_hosting/services/security/) (last visited Feb. 24, 2014).

<sup>7</sup> See "Google Site Search," available at <https://www.google.com/enterprise/search/products/gss.html> (last visited February 24, 2014).

<sup>8</sup> See *id.*

<sup>9</sup> See "Rewriting Queries," available at <https://developers.google.com/custom-search/docs/queries> (last visited Feb. 24, 2014).

<sup>10</sup> See "Threat and Log Management Solutions," available at [http://www.rackspace.com/managed\\_hosting/services/security/threatmgr/](http://www.rackspace.com/managed_hosting/services/security/threatmgr/) (last visited Feb. 24, 2014).

Threat Manager Sensor component and an ActiveWatch component.<sup>11</sup> Each of these two products implements the same methods claimed by the '444 Patent for hosting an intrusion detection process in a server, and integrating the intrusion detection process with a server process.

41. On information and belief, Rackspace provides its customers and users of the Log Manager and the Threat Management System with instructions for how to practice the methods of the '444 Patent. By way of example only, as a result of Rackspace's instructions, customers and users of the Log Manager and Threat Management System host, in a server, an intrusion detection process that provides intrusion detection services, integrate the intrusion detection process with a server process, and pass requests for data received by the server process to the intrusion detection process which, in turn, comprises packing a subset of information from the request into an analysis format and delivering the subset in a funneling process, via a socket, to an analysis process.

42. On information and belief, in making these instructions available, Rackspace specifically intended to encourage its customers to follow these instructions in a manner that infringes the '444 Patent.

**COUNT I**  
**INFRINGEMENT OF U.S. PATENT NO. 6,363,377**

43. Selene refers to and incorporates herein the allegations of paragraphs 1 through 42.

44. Rackspace is liable for direct infringement of the '377 Patent pursuant to 35 U.S.C. § 271(a).

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<sup>11</sup> See "Threat and Log Management Solutions," available at [http://www.rackspace.com/managed\\_hosting/services/security/threatmgr/](http://www.rackspace.com/managed_hosting/services/security/threatmgr/) (last visited Feb. 24, 2014).

45. Rackspace has directly infringed and continues to directly infringe, either literally or under the doctrine of equivalents, at least Claim 1 of the '377 Patent by making, using, selling, and/or offering to sell in the United States, or importing into the United States, certain methods and/or systems disclosed and claimed in the '377 Patent, specifically including, but not limited to, its Rackspace Search on its website.

46. Selene has suffered and continues to suffer damages as a result of Rackspace's infringement of Selene's '377 Patent. Pursuant to 35 U.S.C. § 284, Selene is entitled to recover damages from Rackspace for its infringing acts in an amount subject to proof at trial, but no less than a reasonable royalty from Rackspace for its infringing acts.

47. Rackspace's infringement of Selene's '377 Patent has damaged and will continue to damage Selene, causing irreparable harm for which there is no adequate remedy at law, unless Rackspace is enjoined by this Court.

**COUNT II**  
**INFRINGEMENT OF U.S. PATENT NO. 7,143,444**

48. Selene refers to and incorporates herein the allegations of paragraphs 1 through 47.

49. Rackspace is liable for direct infringement of the '444 Patent pursuant to 35 U.S.C. § 271(a).

50. Rackspace has directly infringed and continues to directly infringe, either literally or under the doctrine of equivalents, at least Claim 1 of the '444 Patent by making, using, selling, and/or offering to sell in the United States, or importing into the United States, certain methods and/or systems disclosed and claimed in the '444 Patent, specifically including its Log Manager and Threat Management System products.

51. Rackspace has induced its customers to infringe the '444 Patent literally and/or under the doctrine of equivalents. Rackspace has had knowledge of the '444 Patent and evidence of its infringement of the '444 Patent since at least the date Rackspace was served with this Complaint. Rackspace has induced its customers and users of its Log Manager and Threat Management System products to infringe the '444 Patent by providing instructions to practice the methods of the '444 Patent.

52. On information and belief, Rackspace acted with the specific intent to induce its customers to use the methods claimed by the '444 Patent by continuing the above-mentioned activities with knowledge of the '444 Patent.

53. Selene has suffered and continues to suffer damages as a result of Rackspace's infringement of Selene's '444 Patent. Pursuant to 35 U.S.C. § 284, Selene is entitled to recover damages from Rackspace for its infringing acts in an amount subject to proof at trial, but no less than a reasonable royalty.

54. Rackspace's infringement of Selene's '444 Patent has damaged and will continue to damage Selene, causing irreparable harm for which there is no adequate remedy at law, unless Rackspace is enjoined by this Court.

#### **PRAYER FOR RELIEF**

Selene, respectfully requests the Court to enter judgment in its favor and against Rackspace, granting the following relief:

- A. Judgment in Plaintiff's favor that Rackspace has directly infringed and continues to infringe, literally and/or under the doctrine of equivalents, the '377 Patent;

- B. Judgment in Plaintiff's favor that Rackspace has infringed and continues to infringe, literally and/or under the doctrine of equivalents, directly and/or indirectly, the '444 Patent;
- C. A permanent injunction enjoining Rackspace and its officers, directors, agents, servants, affiliates, employees, divisions, branches, subsidiaries, parents, and all others acting in active concert therewith from infringement of the '377 Patent, or such other equitable relief the Court determines is warranted;
- D. A permanent injunction enjoining Rackspace and its officers, directors, agents, servants, affiliates, employees, divisions, branches, subsidiaries, parents, and all others acting in active concert therewith from infringement of the '444 Patent, or such other equitable relief the Court determines is warranted;
- E. An award to Plaintiff of damages adequate to compensate it for Rackspace's acts of patent infringement, but in no event less than a reasonable royalty, together with interest, costs, and expenses as fixed by the court pursuant to 35 U.S.C. § 284;
- F. A judgment and order requiring Rackspace to provide an accounting and to pay supplemental damages to Selene, including without limitation, pre-judgment and post-judgment interest; and
- G. Any further relief to which Selene may be entitled.

**JURY DEMAND**

Selene, under Rule 38 of the Federal Rules of Civil Procedure, requests a trial by jury of any issues so triable by right.

Date: March 14, 2014

BAYARD, P.A.

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